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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/597,113	06/20/2000	Roy C. Challberg	24-AT-6005	5948

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John S Beulick  
Armstrong Teasdale LLP  
Suite 2600  
One Metropolitan Square  
St Louis, MO 63102-2740

EXAMINER

KEITH, JACK W

ART UNIT

PAPER NUMBER

3641

DATE MAILED: 11/30/2001

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No. 09/597,113	Applicant(s) Challberg et al
Examiner Jack Kith	Art Unit 3641

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1)  Responsive to communication(s) filed on Sep 17, 2001
- 2a)  This action is FINAL.      2b)  This action is non-final.
- 3)  Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle* 1035 C.D. 11; 453 O.G. 213.

### Disposition of Claims

- 4)  Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above, claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5)  Claim(s) \_\_\_\_\_ is/are allowed.
- 6)  Claim(s) 1-13 is/are rejected.
- 7)  Claim(s) \_\_\_\_\_ is/are objected to.
- 8)  Claims \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9)  The specification is objected to by the Examiner.
- 10)  The drawing(s) filed on \_\_\_\_\_ is/are objected to by the Examiner.
- 11)  The proposed drawing correction filed on \_\_\_\_\_ is: a)  approved b)  disapproved.
- 12)  The oath or declaration is objected to by the Examiner.

### Priority under 35 U.S.C. § 119

- 13)  Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
- a)  All b)  Some\* c)  None of:
1.  Certified copies of the priority documents have been received.
  2.  Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3.  Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \*See the attached detailed Office action for a list of the certified copies not received.
- 14)  Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

### Attachment(s)

- 15)  Notice of References Cited (PTO-892)      18)  Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 16)  Notice of Draftsperson's Patent Drawing Review (PTO-948)      19)  Notice of Informal Patent Application (PTO-152)
- 17)  Information Disclosure Statement(s) (PTO-1449) Paper No(s). 2      20)  Other: \_\_\_\_\_

Art Unit: 3641

## **DETAILED ACTION**

### ***Election/Restriction***

1. Applicant's election with traverse of species II and B in Paper No. 7 is acknowledged.

The traversal is on the ground(s) that species A, B and C are clearly related and that a search of each species would not be a serious burden on the examiner. This is not found persuasive.

Although related each species constitutes a separate embodiment as disclosed within the specification.

The requirement is still deemed proper and is therefore made FINAL.

### ***Drawings***

2. Figures 1-3 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g).

### ***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Art Unit: 3641

4. Claims 1, 4 and 5 are rejected under 35 U.S.C. 102(b) as being anticipated by admitted prior art (figures 1-3).

Applicant admits that figure 3 is a well known boiling water reactor core configuration (see specification and Paper no. 7). Referring to figure 3 a core for a nuclear reactor comprising a plurality of fuel bundles (80) and a plurality of large control rods (76) each control rod comprising four control rod blades (82) extending radially from a central portion (84) and arranged at right angles to each other. The blades of the control rod define four fuel bundle receiving channels and are arranged in staggering rows.

As shown in figure 1 boiling water reactors are known to have a top guide and core plate with fuel bundles located between the top guide and core plate.

While patent drawings are not drawn to scale, relationships clearly shown in the drawings of a reference patent cannot be disregarded in determining the patentability of claims. See In re Mraz, 59 CCPA 866, 455 F.2d 1069, 173 USPQ 25 (1972).

5. Claims 1-13 are rejected under 35 U.S.C. 102(b) as being anticipated by Sakurai et al (JP 04-301596).

Sakurai discloses applicant's inventive concept. Referring to figures 1 and 2 of Sakurai a nuclear reactor core configuration is disclosed. A large control rod (1a) with each control rod comprising four control rod blades (4a) extending radially from a central portion (6a) and arranged at right angles to each other. The blades of the control rod define four fuel bundle (10)

Art Unit: 3641

receiving channels and are arranged in staggering rows. Note that four fuel bundles are located within each of the receiving channels.

While patent drawings are not drawn to scale, relationships clearly shown in the drawings of a reference patent cannot be disregarded in determining the patentability of claims. See In re Mraz, 59 CCPA 866, 455 F.2d 1069, 173 USPQ 25 (1972).

6. Claims 1, 2 , 4-6, 8-10, 12 and 13 are rejected under 35 U.S.C. 102(b) as being anticipated by Yamashita et al (JP 04-122889).

Yamashita discloses applicant's inventive concept. Referring to figure 2 of Yamashita a nuclear reactor core configuration is disclosed. A large control rod (12) with each control rod comprising four control rod blades extending radially from a central portion and arranged at right angles to each other. The blades of the control rod define four fuel bundle (10) receiving channels and are arranged in staggering rows. Note that each receiving channel houses eight fuel bundles.

While patent drawings are not drawn to scale, relationships clearly shown in the drawings of a reference patent cannot be disregarded in determining the patentability of claims. See In re Mraz, 59 CCPA 866, 455 F.2d 1069, 173 USPQ 25 (1972).

### ***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

Art Unit: 3641

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 1-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sakurai et al (JP 04-301596) in view of the admitted prior art (figures 1-3).

Sakurai discloses applicant's inventive concept. However, if not apparent that Sakurai discloses a reactor core comprising a top guide and core plate, then, as admitted by applicant boiling water reactors are known to have a top guide with a core plate and fuel assemblies spaced between them. Accordingly it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the known boiling water reactor core designs into the reactor core configuration of Sakurai, because such results are in no more than the utilization of conventionally known boiling water reactor designs in the nuclear reactor art.

9. Claims 1-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamashita et al (JP 04-122889) in view of the admitted prior art (figures 1-3).

Yamashita discloses applicant's inventive concept. However, if not apparent that Yamashita discloses a reactor core comprising a top guide and core plate, then, as admitted by applicant boiling water reactors are known to have a top guide with a core plate and fuel assemblies spaced between them. Accordingly it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the known boiling water reactor core designs into the reactor core configuration of Yamashita, because such results are in no

Art Unit: 3641

more than the utilization of conventionally known boiling water reactor designs in the nuclear reactor art.

*Conclusion*

10. The cited prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Particularly note Yamashita et al (6,205,196) and Yamashita et al (JP 10-274687).

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jack Keith whose telephone number is (703) 306-5752. The examiner can normally be reached on Monday through Friday from 7:00 to 4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Carone, can be reached on (703) 306-4198. The fax phone number for the organization where this application or proceeding is assigned is (703) 305-7687.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1113.

jwk

November 20, 2001

MICHAEL J. CARONE  
SUPERVISORY PATENT EXAMINER